3.3.8.1 Alder Thicket

3.3.8.1.1 Community Overview

The alder thicket is a minerotrophic wetland community dominated by tall shrubs, especially speckled alder. Shrub associates may include red-osier dogwood, nannyberry, cranberry viburnum, wild currants, and willows. Among the characteristic herbaceous species are Canada bluejoint grass, orange jewelweed, asters, boneset, rough bedstraw, marsh fern, arrow-leaved tearthumb, and sensitive fern. This community type is sometimes a seral stage between northern sedge meadow and northern conifer swamp or northern hardwood swamp, but occurrences can be stable and persist at given locations for long periods of time. This type is common and widespread in northern and central Wisconsin, but also occurs at isolated locales in the southern part of the state. Alder thicket often occurs as a relatively stable community along streams and around lakes, but can occupy large areas formerly covered by conifer swamps that were logged during the Cutover and/or where water tables were raised. Stands of alder that originated following logging and/or wildfire will usually revert to forest, although on heavy, poorly drained soils, forest re-growth can be problematic owing to "swamping" effects.

Groundwater seepage is an important attribute of alder thickets. Seepage areas are often indicated by the presence of skunk-cabbage, marsh-marigold, swamp saxifrage, American golden saxifrage, and marsh pennywort.

3.3.8.1.2 Vertebrate Species of Greatest Conservation Need Associated with Alder Thicket

Twenty-one vertebrate Species of Greatest Conservation Need were identified as moderately or significantly associated with alder thicket (Table 3-170).

Table 3-170. Vertebrate Species of Greatest Conservation Need that are (or historically were) moderately or significantly associated with alder thicket communities.

Species Significantly Associated with Alder Thicket
Birds
American Woodcock
Black-billed Cuckoo
Veery
Golden-winged Warbler
Herptiles
Four-toed Salamander
Wood Turtle
Eastern Massasauga Rattlesnake
Mammals
Gray Wolf
Moose
Species Moderately Associated with Alder Thicket
Birds
Canada Warbler
Rusty Blackbird
Herptiles
Pickerel Frog
Mink Frog
Blanding's Turtle
Queen Snake
Northern Ribbon Snake
Mammals
Water Shrew
Northern Long-eared Bat
Silver-haired Bat
Eastern Red Bat
Hoary Bat

In order to provide a framework for decision-makers to set priorities for conservation actions, the species identified in Table 3-170 were subject to further analysis. The additional analysis identified the best opportunities, by Ecological Landscape, for protection, restoration, and/or management of both alder thicket and associated vertebrate Species of Greatest Conservation Need. The steps of this analysis were:

- Each species was examined relative to its probability of occurrence in each of the 16 Ecological Landscapes in Wisconsin. This information was then cross-referenced with the opportunity for protection, restoration, and/or management of alder thicket in each of the Ecological Landscapes (Tables 3-171 and 3-172).

- Using the analysis described above, a species was further selected if it had both a significant association with alder thicket and a high probability of occurring in an Ecological Landscape(s) that represents a major opportunity for protection, restoration and/or management of alder thicket. These species are shown in Figure 3-41.

Table 3-171. Vertebrate Species of Greatest Conservation Need that are (or historically were) *significantly* associated with alder thicket communities and their association with Ecological Landscapes that support alder thicket.

Alder Thicket	Birds (4)*				Herptiles (3)			Mammals (2)	
Ecological Landscape grouped by opportunity for management, protection, and/or restoration of this community type	American Woodcock	Black-billed Cuckoo	Veery	Golden-winged Warbler	Four-toed Salamander	Wood Turtle	Eastern Massasauga Rattlesnake	Gray Wolf	Moose
MAJOR									
Central Sand Plains	■	■	■	■	■	■	■	■	
North Central Forest	■	■	■	■	■	■		■	■
IMPORTANT									
Central Sand Hills	■	■	■	■	■			■	
Forest Transition	■	■	■	■	■	■		■	
Northeast Sands	■	■	■	■	■	■		■	
Northern Highland	■		■	■	■	■		■	■
Northwest Lowlands	■	■	■	■	■	■		■	■
Northwest Sands	■	■	■	■	■	■		■	
Superior Coastal Plain	■	■	■	■	■	■		■	■
Western Coulee and Ridges	■	■	■		■	■	■		
PRESENT (MINOR)									
Central Lake Michigan Coastal	■	■	■	■	■	■			
Northern Lake Michigan Coastal	■	■	■	■	■	■		■	
Southeast Glacial Plains	■	■	■	■	■		■		
Western Prairie	■		■			■			

Color Key

■ = **HIGH probability the species occurs in this Ecological Landscape**

■ = **MODERATE probability the species occurs in this Ecological Landscape**

□ = **LOW or NO probability the species occurs in this Ecological Landscape**

*** The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.**

Table 3-172. Vertebrate Species of Greatest Conservation Need that are (or historically were) *moderately* associated with alder thicket communities and their association with Ecological Landscapes that support alder thicket.

Alder Thicket	Birds (2)*		Herptiles (5)					Mammals (5)				
Ecological Landscape grouped by opportunity for management, protection, and/or restoration of this community type	Canada Warbler	Rusty Blackbird	Pickerel Frog	Mink Frog	Blanding's Turtle	Queen Snake	Northern Ribbon Snake	Water Shrew	Northern Long-eared Bat	Silver-haired Bat	Eastern Red Bat	Hoary Bat
MAJOR												
Central Sand Plains	M	M	M		H			M	M	M	M	M
North Central Forest	H	M	M	H				H	M	H	M	H
IMPORTANT												
Central Sand Hills		M	M		H			M	M	M	M	M
Forest Transition	M	M	M					M	M	M	H	M
Northeast Sands	M	M	M	H	M			H				
Northern Highland	H	M		H				H			M	
Northwest Lowlands	H	M	M	H				H	M	M	M	M
Northwest Sands	M	M	M	M	H			H				
Superior Coastal Plain	H	M	M	H				H	M	M	M	M
Western Coulee and Ridges		H	H		H				H	M	M	M
PRESENT (MINOR)												
Central Lake Michigan Coastal	M	M	M		M		H		M	M	M	M
Northern Lake Michigan Coastal	H	M	M	H	M			H	M	M	M	M
Southeast Glacial Plains		H	H		H	H	H		M	M	M	M
Western Prairie		M	M		H							

Color Key

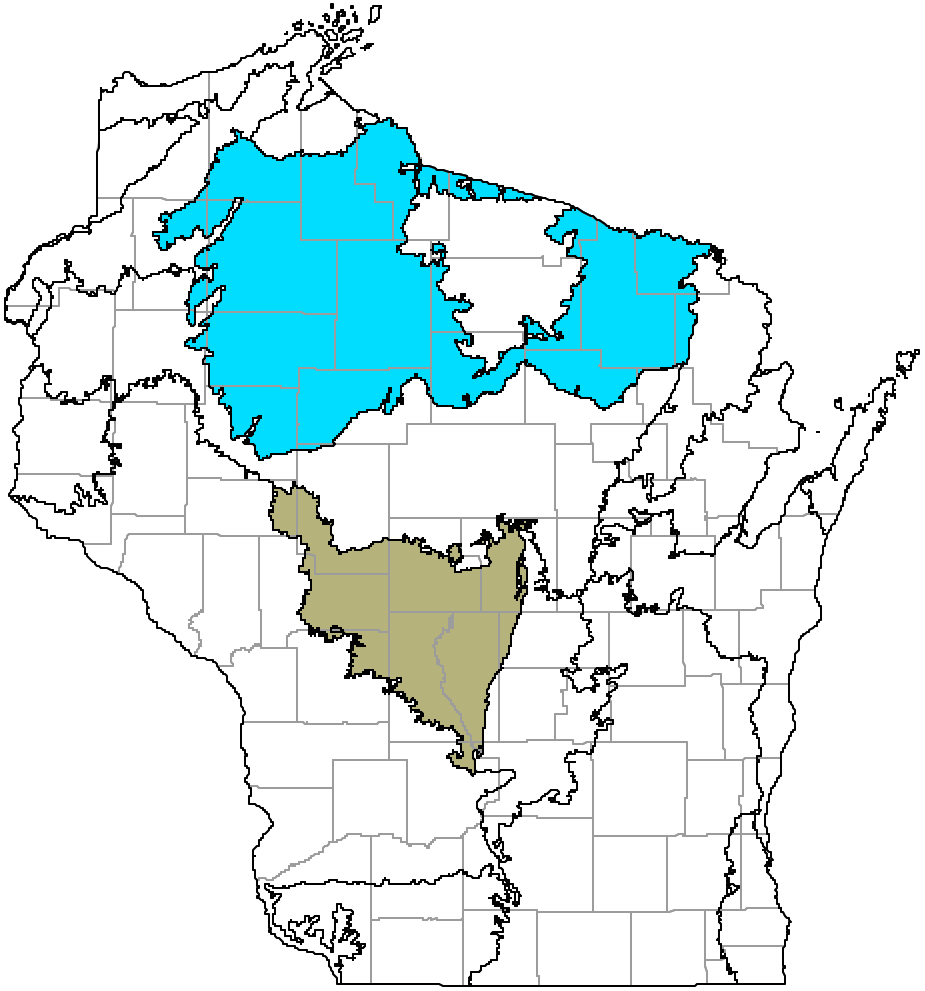
H = **HIGH probability the species occurs in this Ecological Landscape**

M = **MODERATE probability the species occurs in this Ecological Landscape**

= **LOW or NO probability the species occurs in this Ecological Landscape**

*** The number shown in parentheses is the number of Species of Greatest Conservation Need from a particular taxa group that are included in the table. Taxa groups that are not shown did not have any Species of Greatest Conservation Need that met the criteria necessary for inclusion in this table.**

Figure 3-41. Vertebrate Species of Greatest Conservation Need that have *both* a significant association with alder thicket *and* a high probability of occurring in an Ecological Landscape(s) that represents a major opportunity for protection, restoration and/or management of alder thicket.



Central Sand Plains
American Woodcock
Black-billed Cuckoo
Veery
Golden-winged Warbler
Wood Turtle
Gray Wolf

North Central Forest
American Woodcock
Black-billed Cuckoo
Veery
Golden-winged Warbler
Four-toed Salamander
Wood Turtle
Gray Wolf

3.3.8.1.3 Threats and Priority Conservation Actions for Alder Thicket

3.3.8.1.3.1 Statewide Overview of Threats and Priority Conservation Actions for Alder Thicket

The following list of threats and priority conservation actions were identified for alder thicket in Wisconsin. The threats and priority conservation actions described below apply to all of the Ecological Landscapes in Section 3.3.8.1.3.2 unless otherwise indicated.

Threats and Issues

- Changes in hydrology from road construction, development, and agricultural drainage, or flooding by beaver activity can be detrimental to this community.
- Lowering the water tables of sedge meadows or poor fens can lead to an increase in shrubs, including alder.
- Raising water tables in lowland forests can increase the abundance of alder.
- Conversion and succession to other types (e.g., northern hardwoods or northern conifer swamp) is limited but occurring.
- Residential lakeshore/river-side development can result in the removal of alder and other "rank" vegetation, which may be considered unsightly by some.
- Reed canary grass can invade and take over this community, especially in landscapes where grazing is common such as the Forest Transition, Western Ridges and Coulees, and in parts of the Superior Coastal Plain.
- More information is needed to understand how to manage and maintain this type, and avoid the negative impacts mentioned above.

Priority Conservation Actions

- Protect significant areas from hydrological changes from road construction, development, and agricultural drainage. Maintain beaver populations at acceptable levels.
- Preserve large blocks of habitat and embed the habitat in a matrix of other native community types.
- Opportunities exist in some of the northern landscapes to manage for early successional forest birds by providing early successional forest habitat adjacent to alder thickets.
- Given both local and landscape level considerations, it may also be appropriate and desirable to embed alder thicket within complexes that contain significant patches of older forest.
- Support research to better understand how to manage this community type. There appear to be differences in community function between alder that occurs in stable landscape positions (e.g., along streams) versus alder that is a shorter-term occurrence related to flooding by beaver or other hydrologic changes. Depending on landscape position, alder may be self-maintaining. Techniques used to maintain alder need further investigation.
- Manage lands to limit establishment of invasive plants.
- Continue and support biological control research to manage invasives.

3.3.8.1.3.2 Additional Considerations for Alder Thicket by Ecological Landscape

Special considerations have been identified for those Ecological Landscapes where major or important opportunities for protection, restoration, and/or management of alder thicket exist. Those considerations are described below and are in addition to the statewide threats and priority conservation actions for alder thicket found in Section 3.3.8.1.3.1.

Additional Considerations for Alder Thicket in Ecological Landscapes with ***Major*** Opportunities for Protection, Restoration, and/or Management of Alder Thicket

Central Sand Plains

This community type is common and widespread here and should be managed and protected as an integral part of the many wetland complexes. Good examples include Clear Creek at Fort McCoy Military Reservation (Monroe County), Robinson Creek, (Jackson County), Hulbert Creek (Sauk County), Necedah National Wildlife Refuge (Juneau County), and Little Roche a Cri Creek (Adams County).

North Central Forest

This Ecological Landscape is a good place to maintain the alder thicket community because of its abundance and large amount of land under public ownership. Examples occur on federal, state, and county forests in this Ecological Landscape, such as Dailey's Marsh, Hunting River Alders, and Wildcat Springs (Langlade County); Sidney Creek Swamp (Marinette County); and Ruby Swamp (Chippewa County). Altered hydrology is an issue in some parts of this Ecological Landscape, especially from road construction and residential development. Invasives are not a large problem at present, but should be monitored.

Additional Considerations for Alder Thicket in Ecological Landscapes with ***Important*** Opportunities for Protection, Restoration, and/or Management of Alder Thicket

Central Sand Hills

Stream corridors and areas around spring seeps have potential for occurrences of alder thicket. Examples are found at Caves Creek Headwaters, Chaffee Creek State Fishery Area, Mecan River State Fishery Area, and Lawrence Creek State Natural Area (all in Marquette County). More extensive wetland inventories are needed in this landscape.

Forest Transition

The best-documented opportunities in this Ecological Landscape occur in the eastern and northern parts of the Ecological Landscape, but the community is widespread here. Examples are at Pope Lake and Myklebust Lake (Waupaca County), along the Red River (Shawano County), Tenmile Creek Marsh (Rusk County), and Little Black River Sedge Meadow (Taylor County). More extensive inventories are needed. Grazing occurs in this Ecological Landscape and can degrade the habitat and lead to invasion by non-native plants. Past conversion of forests and wetlands to agricultural fields and pastures limits opportunities for management and protection.

Northeast Sands

Examples occur on the Peshtigo River State Forest, and at Best Thicket, Chemical Creek Cedar Swamp, and New Athelstane Barrens (all in Marinette County).

Northern Highland

Many good examples of alder thicket occur on the Northern Highland-American Legion State Forest. Others are found at the Willow Flowage, Rice Lake–Thunder Lake Marsh, Holmboe Conifer Forest, Trout Creek, Tomahawk River Pines, and Bootjack Bog (all in Oneida County), Siphon Creek, Goodyear Springs and Salsich Springs (in Vilas County).

Northwest Lowlands

Although alder thicket is not widely distributed in this Ecological Landscape, there are good opportunities for protection (e.g., Ekdall Wetlands in Burnett County). Other examples may be found at Empire Swamp, Black Lake Bog, and along Ericson Creek (all in Douglas County). This Ecological Landscape has a lower population density and lower road density, thus fewer negative impacts from fragmentation and altered hydrology occur here. This community type is common on county forestland. It often occurs in the stream valleys between forested ridges and on the margins of large peatlands, which are common in this Ecological Landscape. Alder thickets should be managed as a complex with streams, lakes, sedge meadows, and a variety of peatland communities. Beaver impacts should be evaluated and beaver populations should be maintained at an appropriate level. There are some potential impacts from invasive plant species such as buckthorns and Asian honeysuckles, thus early detection and control are important.

Northwest Sands

Extensive corridors of alder thicket along streams and lakeshores should be maintained. An exceptional example occurs along the Upper Brule River. Other occurrences include many locations along the Upper St. Croix River, Osgood Spring Pond (Sawyer County), and Heffelfinger Spring Pond (Douglas County).

Superior Coastal Plain

Alder thicket should be maintained as a complex with streams, lakes, sedge meadows, and a variety of peatland communities. Significant occurrences include the Bibon Swamp (Ashland County), Superior Municipal Forest (Douglas County), Bark Bay Slough State Natural Area (Bayfield County), and the northern part of the Brule River State Forest (Douglas County). Reed canary grass is a problem in the western portion of the Ecological Landscape and around the City of Ashland.

Western Coulee and Ridges

Entire river corridors should be protected and sustained from lowlands well into uplands. Buffers within floodplains should be used to prevent compaction, trampling, and sedimentation. Grazing is a common practice in the wetlands of this Ecological Landscape, and can degrade the habitat and lead to invasion by non-native plants such as reed canary grass. Good examples occur at Silver Creek on Fort McCoy Military Reservation (Monroe County), Dell Creek State Wildlife Area (Sauk County), and along tributaries of the Kickapoo River (e.g., on the Kickapoo Reserve, Vernon County).